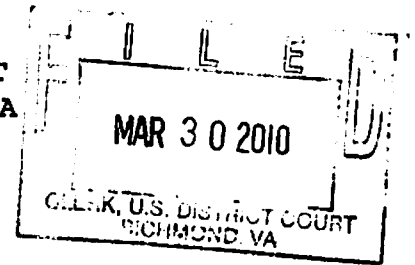


IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
Richmond Division



WiAV SOLUTIONS LLC

Plaintiff,

v.

Civil No. 3:09cv447

MOTOROLA, INC. et al.,

Defendants.

**MEMORANDUM OPINION**

This matter is before the Court for claim construction of U.S. Patent Nos. 6,680,920 (the "'920 Patent") and 6,539,205 (the "'205 Patent").

**BACKGROUND**

The Plaintiff, WiAV Solutions LLC ("WiAV") asserts claims for infringement of the '920 Patent and the '205 Patent (collectively the "Patents-in-Suit") against the Defendants, Motorola, Inc., Nokia, Inc., Nokia Corp., Palm Inc., Personal Communications Devices LLC, Personal Communications Devices Holdings LLC, Sony Ericsson Mobile Communications AB, Sony Ericsson Mobile Communications (USA) Inc., and UTStarcom, Inc. (collectively "the Defendants"). The Patents-in-Suit relate to the wireless communication system called Global System for Mobile

Communications (GSM). The '920 Patent addresses "techniques for extending the battery life of mobile stations." It does this by implementing a short paging channel, which reduces the total amount of paging data that each mobile station must process. According to the '920 Patent, the use of a short paging channel may "quadruple the standby mode lifetime of a mobile station battery." '920 Patent at 12:3-4. The '205 Patent improves communication quality by providing a method for monitoring the quality of a traffic channel and modifying transmission coding in response to the quality.

The parties offered four claim terms for construction, but they disputed only three of the claim terms in their briefing. At oral argument, the parties essentially agreed on the construction of one of the three terms that had been briefed. Thus, only two terms remain in dispute.

## DISCUSSION

### I. Legal Standard

The purpose of claim construction is to "determin[e] the meaning and scope of the patent claims asserted to be infringed." Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), aff'd 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). The construction or interpretation of a claim is a question of law. Id.

When undertaking claim construction a court "need not always purge every shred of ambiguity." Acumed LLC v. Stryker Corp., 483 F.3d 800, 806 (Fed. Cir. 2007). However, a term should be construed by the Court when there is an actual dispute as to the proper scope of the claims. O2 Micro Int'l Ltd. V. Beyond Innovation Tech. Co., Ltd., 521 F.3d 1351, 1360 (Fed. Cir. 2008).

Generally, the words of the claim are to be given their ordinary and customary meaning, i.e. the meaning that the term would have "to a person of ordinary skill in the art in question at the time of the invention," read in the context of the entire patent, including the specification. Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). "[I]n interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification, and, if in evidence, the prosecution history...Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996); see also Phillips, 415 F.3d at 1314 (stating that courts look to the words of the claims, the specification and the prosecution history to understand the meaning of a claim term). Of these, the

words of the claim should be the Court's controlling focus. See Phillips, 415 F.3d at 1314; see also Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1344 (Fed. Cir. 1998).

If the intrinsic evidence is insufficient to resolve ambiguity in the meaning of claims, the court may rely upon extrinsic evidence to understand the technology and to construe the claims. Phillips, 415 F.3d at 1317; see also Vitronics, 90 F.3d at 1584. "Extrinsic evidence is that evidence which is external to the patent and file history, such as expert testimony, inventor testimony, dictionaries, and technical treatises and articles." Vitronics, 90 F.3d at 1584. Extrinsic evidence, however, may not be used to contradict the claim language or the meanings established in the specification. Phillips, 415 F.3d at 1318-19; Vitronics, 90 F.3d at 1584.

## II. Claim Construction

The terms tendered for construction are:

- (1) "Control channel" which appears in Claims 1, 16, 18, 19 and 21 of the '205 Patent.
- (2) "Traffic channel encoding selector" which appears in Claims 16 and 21 of the '205 Patent.
- (3) "Time slot" which appears in Claims 1, 2 and 4 of the '920 Patent.

- (4) "Wireless communication system/network operating in accordance with the GSM standard" which appears in Claims 1, 2 and 4 of the '920 Patent.

In the briefing and oral argument process, the parties came to agree upon the meaning of the term "control channel." It also appears that the parties tacitly agree on the meaning of "traffic control channel selector." As used in the '205 Patent, therefore, "control channel" is agreed to mean: a channel that provides a communication link between the mobile station and the base station for mobile management tasks. Some explanation is appropriate to understand the tacit agreement about the term "traffic control channel selector."

**A. "Traffic channel encoding selector"**

The parties now agree that the proper construction of this term is: a module that selects the encoding scheme to apply to a traffic channel.<sup>1</sup> This construction is consistent with the words of the claim, specification, and prosecution history.

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<sup>1</sup> During briefing, the parties offered slightly different constructions. WiAV proposed the construction: module that selected the encoding scheme for a traffic channel. (emphasis added). The Defendants proposed the construction: module that selects the encoding scheme applied to a traffic channel. (emphasis added). The difference in proposed construction stems largely from the parties' disagreement over whether an encoding scheme must be applied to a traffic channel at all as well as the timing of that application and the structure that performs it.

## 1. Words of the Claims

The language of the claims state:

An error correction controller selector which selects [the/an] amount of error correction overhead to apply to a traffic channel signal in a mobile communication system having at least one control channel and at least one traffic channel, said controller comprising:

a control channel signal quality estimator; and

a traffic channel encoding selector coupled to said control channel signal quality estimator, said encoding selector selecting an appropriate error correction [overhead] scheme to apply to data transmissions on said at least one traffic channel in response to said control channel signal quality estimator...

'205 Patent at 14:1-14; 14:40-51 (emphasis added). The claims themselves use the phrase "to apply to" and support a construction that uses that phrase as well.

## 2. Specification

The specification describes the function of the traffic channel encoding selector, referring to it as the "overhead selector 148." According to the specification, the overhead selector 148 "may be embodied in many ways, such as program executing on the processor for the mobile or base station, or both, or as firmware or as a separate circuit." Id. at 7:26-29. The specification describes several steps that must take place to select and apply an encoding scheme. First, the overhead selector 148 receives

information about the bit error rate (BER) from the channel quality estimator 150. Id. at 6:35-36. Information about the BER may also be shared from station to station "so that each station may adjust the amount of error correction overhead in direct relation to the quality of the channel over which that station must transmit data." Id. at 10:22-27.

Next, using the BER provided by the channel quality estimator, "[t]he overhead is selected with an overhead selector 148." Id. at 7:25-26. The exemplary embodiment described in the specification allows the overhead selector to compare the BER with three different thresholds and, based on that comparison, select from three error correction schemes. Id. at 7:62-8:11.

Finally, the selected scheme is applied to adjust the overhead. To accomplish this goal, the specification describes an embodiment in which the "channel quality estimator 150 reports the BER to the processing and control circuitry which in conjunction alters the error correction scheme (encoding) for the outgoing data on the traffic channel." Id. at 9:58-61. The specification also describes an embodiment in which "the overhead scheme selector 148 (FIG. 2) selectively adjusts the amount of error correction overhead applied for the data on the

traffic channel." Id. at 8:12-15. That embodiment suggests that the overhead selector can, in fact, apply the encoding scheme to the traffic channel, though it is not the only method of application.

This three-step process supports the agreed-upon construction given to the term because it shows the process by which an encoding scheme is selected *to apply to* a traffic channel. And, it makes clear that the encoding selector, or overhead selector, is the module that makes the selection.

### 3. Prosecution History

Finally, the prosecution history consistently uses the phrase "to apply to" when referring to the encoding selector's function of choosing an encoding scheme to apply to a traffic channel. The Examiner, for example, referring to prior art, wrote that "Schrader, et al disclose a method. . .comprising the steps of. . .selecting an encoding scheme or data rate *to apply to* the traffic channel." (Pl. Ex. 9 at 2 (emphasis added).) Additionally, an amendment to the Patent stated that "the method selects an encoding scheme or data rate *to apply to* the traffic channel." (Pl. Ex. 10 at 2 (emphasis added).)



#### 4. Proper Construction of "Traffic Channel Encoding Selector"

Because the intrinsic evidence illustrates that the phrase "to apply to" appears consistently throughout the claims, specification, and prosecution history, and because, in their briefs, the parties essentially agree on the construction, the term "traffic channel encoding selector" means: a module that selects the encoding scheme to apply to a traffic channel.

##### B. "Time slot"

There is significant disagreement between the parties over the proper construction of this term. WiAV asserts that the correct construction is: a time interval that a telecommunication protocol has defined as the basic unit recognized by devices operating according to that protocol. The Defendants assert that the term should be construed as: one of 8 physical channels in each time-division multiple access (TDMA) frame of a 200 kHz GSM radio channel.

##### 1. Words of the Claims

Claims 1 and 2 of the '920 Patent claim a method of operating a mobile station, comprising

scanning broadcast information in a wireless communication network for a short page channel;

receiving a single time slot of said short page channel containing one group of call alert data...said single time slot being less than one

millisecond in duration and representing less than 128 data bits. . .

'920 Patent at 25:35-42 (emphasis added). Claim 4 of the '920 Patent claims a method of operating a mobile station, comprising:

receiving a short page channel transmitted by a wireless communication system operating in accordance with the GSM standard;

extracting paging data from a time slot of said short page channel;

determining from said paging data in said time slot that a telephone call or paging message may have been directed to said mobile stations, said time slot being less than one millisecond in duration and representing less than 128 bits; and

receiving four time slots of a paging channel and responsively determining whether the mobile station is an intended recipient of a telephone call or paging message.

Id. at 26:2-16 (emphasis added).

WiAV argues that "time slot" as used in the claims is consistent with its dictionary meaning. (Pl. Br. at 10.) WiAV begins with the proposition that the Federal Standard 1037C, Telecommunications: Glossary of Telecommunication Terms defines a time slot as: (1) "[p]eriod of time during which certain activities are governed by specific regulations," and (2) [a] time interval that can be recognized and uniquely defined." WiAV further argues that, here, the "regulations" are communications protocols

that "uniquely define" the time slots so the devices can "recognize" them. While the words of the claim do not contradict this construction, there is no intrinsic evidence to support such a construction.

The Defendants correctly assert that the language of the claims place two important limitations on the construction of the term "time slot." First, the time slot must be transmitted by a "wireless communication system operating in accordance with the GSM standard." '920 Patent at 25:38-40; 26:1-4. Second, the time slot must be "less than one millisecond in duration and represent[] less than 128 data bits." Id. at 25:40-42; 26:9-11. Both of those limitations are found directly in the claims. And, the first limitation, which shapes the Defendants' construction, is described further in the specification.

## 2. Specification

The term "time slot" appears throughout the specification. When described in accordance with the GSM standard,<sup>2</sup> the specification provides:

FIG. 2 illustrates wireless communication signal data transmitted by a base station 104 and structured in data frames, sometimes called time-division multiple access (TDMA) frames, according to the GSM standard. The GSM specification provides eight time slots (or physical channels)

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<sup>2</sup> The GSM standard is the only standard described in the specification.

in each 200 kHz radio channel. An entire data frame has a duration of 4.615 milliseconds. Each time slot has a time length of 577 microseconds ( $4,615/8=577$ ). Because a mobile station 106 may use only one time slot in any data frame, it must transmit information within 577 microseconds.

'920 Patent at 7:40-50 (emphasis added). Additionally, the specification incorporates a textbook, "An Introduction to GSM" into the specification by reference. Id. at 17:1-4 ("See...Siegmond M. Redl, et al., *An Introduction to GSM*, 40 (1995) which is hereby incorporated by reference herein in its entirety."). The Redl textbook provides:

Considering that the GSM channel spacing is 200 kHz, it would be rather wasteful for a system not to subdivide this resource any further, *since* regulatory bodies and operators continue to strive for increased efficiency in the use of spectrum. To achieve this, the GSM system makes use of TDMA techniques, with which each frequency channel is further subdivided into eight different time slots numbered 0 to 7.

(Def. Ex. F at WIAV000612 (emphasis added).) The Defendants' construction is well-supported in the embodiments described in the specification as well as Redl's general description of a time slot operating within a GSM system.

WiAV takes issue with the Defendants' construction for two reasons. First, the Defendants' construction, WiAV argues, seeks to limit the term to a preferred embodiment, a practice which the Federal Circuit repeatedly has

cautioned against. It is correct that the limitations suggested by the Defendants appear in the embodiments, but it is clear that those limitations are general ones that apply to all systems operated in accordance with the GSM standard. As noted above, Redl's textbook, discussing the GSM system in general terms, supports the Defendants' construction.

Second, WiAV notes that the claimed range for the time slot (less than 1 millisecond) is broader than the exact GSM time slot in the specification, 577 microseconds. '920 Patent at 7:46-48. Because the claim language allows for a longer time range than the exact GSM time range in the specification, WiAV argues that there is a lack of intent to limit "time slot" to the GSM standard. This argument is refuted by both the words of the claims, which show a clear limitation to the GSM standard, and the specification, which describes the invention in terms of the GSM standard alone.

Instead, WiAV asserts that the specification uses the term "time slot" consistently with its dictionary meaning, as reflected in WiAV's proposed construction. For example, WiAV points to Figures 2 and 5, which show that data is transmitted in data frames 202, which are divided into time slots. '920 Patent at Figs. 2 and 5. Significantly, the

figures cited by WiAV show that each TDMA data frame is divided into 8 time slots each, which, of course supports the construction that the term is as used in the incorporated Redl textbook and in the specification.

Additionally, WiAV argues that the specification as a whole demonstrates that its construction is correct because the specification provides that "alternative embodiments of the present invention operate using different time slot formats." Id. at 9:66-10:1. WiAV's point here is misleading. When read in context, the cited passage merely explains that the data transmitted *within* each GSM time slot may be packaged in different formats, such as a normal burst, synchronization burst, or other variation. The time slots themselves, however, are as set forth in the GSM standard alone.

### 3. Prosecution History

There is a significant dispute between the parties regarding the appropriate interpretation of the prosecution history. WiAV argues that the prosecution history shows that "the USPTO [] refused to limit 'time slot' to a specific format or protocol." Under WiAV's assessment of the prosecution history, Claim 34 of the '920 Patent was rejected over Raith. (Pl. Ex. 7 at 7-8.) Raith's time slot conformed to the IS-54B standard, which is different

from the GSM standard to which the Defendants seek to limit the term. (Pl. Ex. 13 at 1:26-47.) Nevertheless, WiAV contends, the USPTO concluded that Raith disclosed a "time slot" and rejected the claims. (Pl. Ex. 7 at 7-8.) Thus, says WiAV, the ordinary meaning (as set out in the dictionary definition discussed above) of the term "time slot" must have been applied by the Examiner in rejecting the claim and should be applied now.

The Defendants' analysis of the patent rejection is quite different. They assert that the Examiner concluded that it was the GSM system, rather than Raith, that disclosed a time slot according to the claims. Thus, under the Defendant's view, the prosecution history actually provides very little support for the broad construction of the term "time slot" urged by WiAV. And, the Defendants argue, the applicant disclaimed all non-GSM systems during prosecution when it distinguished prior art that did not use the GSM standard. For example, in a June 17, 1999 response to the Examiner, the applicant wrote that the "radio communication system disclosed in Raith I is not...a communication system in accordance with the GSM standard...Rather than being based on GSM, the system disclosed in Raith I relies on radio channels in accordance with the IS-54B standard." (Def. Ex. D at WIAV0020096.)

This indicates that the '920 Patent is, in fact, a system that operates under the GSM standard. That, in turn, would mean that the time slots within that system must also operate within the GSM standard.

#### 4. Proper Construction of "Time Slot"

Overall, the Defendants' construction is consistent with the intrinsic evidence and will be adopted. To begin, WiAV's very approach to construction is inconsistent with the Federal Circuit's teaching in Phillips. There, the Federal Circuit assessed an earlier-decided case, Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193 (Fed. Cir. 2002). In Texas Digital, the Federal Circuit explained that a court must consult the patent's specification and prosecution history to determine if the patentee used "the words [of the claim] in a manner clearly inconsistent with the ordinary meaning reflected, for example, in a dictionary definition." Phillips, 415 F.3d at 1319 (citing Texas Digital, 308 F.3d at 1204.) The Phillips court called the Texas Digital approach into question, noting that it placed too much emphasis on extrinsic sources, such as dictionaries, and too little emphasis on the specification and prosecution history. Phillips, 415 F.3d at 1320. The Federal Circuit wrote:



In effect, the Texas Digital approach limits the role of the specification in claim construction to serving as a check on the dictionary meaning of a claim term. . . . That approach, in our view, improperly restricts the role of the specification in claim construction.

Id. The Texas Digital approach, the court added, creates the risk that the claim term will be defined out of context, resulting in an "unduly expansive" construction.

Id. at 1321. Rather, the Phillips court stated, a court should "focus[] at the outset on how the patentee used the claim term in the claims, specification and prosecution history, rather than starting with a broad definition and whittling it down." Id.

WiAV uses the approach rejected by Phillips by beginning with a dictionary definition and selectively examining the specification and prosecution history as a "check" on that definition. Doing so assigns too limited a role to the specification and ignores how the words of the claims and specification would be read by a person of ordinary skill in the art in the context of the patent.

Not only is WiAV's approach questionable, but its proposed construction is not supported by even the extrinsic evidence offered. For example, WiAV offers no support that a time slot is a "basic unit." This terminology does not appear in the intrinsic or extrinsic

evidence. Rather, WiAV's construction appears to be an amalgamation of definitions spliced together and supplemented by WiAV to suit its own needs.

The Defendants' construction, on the other hand, is well-supported by the intrinsic evidence. First, the words of the claims indicate that the wireless communication system, of which the time slot is a part, must operate in accordance with the GSM standard. And, the intrinsic evidence leaves no real question as to what "time slot" means within a GSM system. The GSM standard, according to the specification, requires each data frame to contain eight time slots for each 200 kHz radio channel. And, each of those time slots are 577 microseconds. Those requirements are consistent with the time slot described in the Redl textbook and made a part of the specification. Thus, "time slot" will be construed to mean: one of 8 physical channels in each time-division multiple access (TDMA) frame of a 200 kHz GSM radio channel.

**C. "Wireless communication system/network operating in accordance with the GSM standard"**

WiAV proposes that the term means: a wireless system/network that, consistent with the GSM standard, includes a paging channel that indicates the presence of pending telephone calls or paging messages and uses a time

slot that is less than 1 ms and represents fewer than 128 bits. The Defendants propose the construction: system/network that transmits data between a mobile station and a base station over a 200 kHz radio channel using time division multiple access according to the Global System for Mobile communications specifications existing as of October 29, 1997.

#### 1. Words of the Claim

Claims 1 and 2 of '920 Patent claim a method of operating a mobile station, comprising

scanning broadcast information in a wireless communication network for a short page channel;

receiving a single time slot of said short page channel containing one group of call alert data, said wireless communication network operating in accordance with the GSM standard, said single time slot being less than one millisecond in duration and representing less than 128 data bits; and

processing said one group of call alert data and determining from said group of call data alert whether a pending telephone call or paging message may have been directed to the mobile station.

'920 Patent at 25:35-46 (emphasis added). Similarly, claim 4 of the '920 Patent claims a method of operating a mobile station, comprising:

receiving a short page channel transmitted by a wireless communication system operating in accordance with the GSM standard;

extracting paging data from a time slot of said short page channel;

determining from said paging data in said time slot that a telephone call or paging message may have been directed to said mobile stations, said time slot being less than one millisecond in duration and representing less than 128 bits; and

receiving four time slots of a paging channel and responsively determining whether the mobile station is an intended recipient of a telephone call or paging message.

Id. at 26:1-16 (emphasis added).

The focus of the interpretive dispute is the meaning of the phrase "in accordance with." WiAV contends that the phrase means consistent with the GSM standard. The Defendants argue that WiAV's proposed construction broadens the claim by removing the requirement that the system/network operate "in accordance with the GSM standard" and allowing merely a system/network that is "consistent" with the GSM standard.

The words "consistent with" are not used in the claims. The term, "in accordance with," is given no special meaning in the patent and nothing in the patent suggests that the words should receive any meaning other than their general usage meaning. However, the text of the claims does not instruct further.

## 2. Specification

The parties' reading of the specification raises two issues. The parties first disagree over the general focus of this claim term. While the Defendants construction focuses on transmission under the GSM standard, WiAV focuses on the general use of a paging system under the GSM standard. Both constructions find some support in the specification.

The Defendants' proposed construction finds ample support in the specification as well as the Redl textbook that is incorporated by reference in the specification. First, the specification states that GSM depends on "time division multiple access wherein mobile stations are allocated very short time periods within which to communicate." '920 Patent at 1:51-55. Additionally, the specification explains that mobile stations and base stations in a GSM system communicate using radio frequency channel with a width of 200 kHz. Id. at 7:35-36; see also Pl. Ex. F at WIAV0006012 (" . . . the GSM channel spacing is 200 kHz.") Finally, the specification provides that the "GSM specification provides eight time slots (or physical channels) in each 200 kHz radio channel." '920 Patent at 7:43-45. Thus, the specification shows that a wireless communications system operating in accordance with the GSM

standard would be limited to a 200 kHz radio channel and would use TDMA, as argued by the Defendants.

WiAV argues that the use of a 200 kHz radio channel and TDMA are "incidental to the invention. Rather, WiAV argues, the claim term at issue refers to the receipt and processing of a paging channel. The specification explains that, when scanning for telephone calls or paging messages, "[e]ach alerted mobile station 106 then examines standard paging channel (PCH) information according to standard GSM specifications to determine whether the telephone call or paging message is intended for the respective mobile station 106." '920 Patent at 10:51-55. The specification also provides that, "[i]n accordance with the GSM standard, the mobile station 106 receives and processes standard paging channel 218 PCH information approximately every 0.5 to 2 seconds." Id. at 15:36-38. Thus, the specification also shows that the GSM standard referred to in the claim term is linked to the process of receiving and processing the paging channel information.

The second key point of contention between the parties is whether the claim term requires limitation to the GSM standard as of the date of filing, October 29, 1997. Generally, a claim's meaning "must be interpreted as of the filing date" because a "claim cannot have different

meanings at different times." PC Connector Solutions v. SmartDisk Corp., 406 F.3d 1359, 1363 (Fed. Cir. 2005). Thus, the focus of the claim construction inquiry is "what one of ordinary skill in the art at the time of the invention would have understood the term to mean." Markman, 52 F.3d at 986.

The Defendants argue that the claim term must be limited to the GSM standard as of October 29, 1997. WiAV, on the other hand, argues that the term cannot require compliance with the GSM standard of October 29, 1997 because, at that time, the standard did not include short paging, which is essential to the claimed invention. WiAV argues that the Patent describes an improvement over the October 29, 1997 GSM standard. '920 Patent at 11:45-53 ("According to existing GSM-based wireless communications systems, mobile stations receive, store and process four time slots of a paging channel (PCH) to determine whether a telephone call or paging message is pending. Under the present invention, a mobile station 106 in standby mode (waiting for a telephone call or paging message) need never process more than a single time slot to detect the possibility that a telephone call or paging message has been directed to mobile station 106.") And, WiAV asserts that a person of ordinary skill in the art would have

understood the invention as such and thus, would not have limited it to the October 29, 1997 GSM standard. Finally, WiAV argues, such a limitation would exclude all the preferred embodiments because they contain short-paging channels, which did not exist as part of the 1997 GSM standards. See Vitronics Corp., 90 F.3d at 1583 (an interpretation that excludes a preferred embodiment is "rarely, if ever, correct" and requires "highly persuasive evidentiary support.")

In response, the Defendants assert that the system must merely use the GSM transmission protocols existing as of October 29, 1997, the date the patent was filed. Those requirements, the Defendants argue, do not impact the use of a short paging channel or exclude the preferred embodiments. Thus, under the Defendants' construction the wording "in accordance with the GSM standard" does not preclude use of short paging channels, but instead requires only that the short paging channels be implemented in a network using the pre-existing GSM transmission protocols as set forth in the patent and the Redl textbook.

Use of a short paging channel clearly was not a requirement of the 1997 GSM standard. Thus, when reading the patent, one of ordinary skill in the art would understand that a limitation to the transmission protocols



under the GSM standard as of October 29, 1997 would not exclude the use of a short paging channel, which is an improvement in the GSM standard. Those transmission protocols are made clear in the specification, and it is appropriate to limit the term to the GSM transmission protocols existing as of October 29, 1997.

### 3. Prosecution History

WiAV argues that the correct meaning of the disputed term is clarified by an understanding of how it came to be part of the claim and the Patent. During prosecution of the '069 Patent, the parent patent, the applicant added the following limitation to claim 1: "said wireless communication network operating in accordance with the GSM standard, said single time slot less than 1 millisecond in duration and representing less than 128 data bits." (Pl. Ex. 5 at 2.) During prosecution, the applicant equated the GSM standard with the length of the time slot: "Applicant amended Claim 13 to clarify that the recited short page channel time slot is one in accordance with the GSM standard, and thus, is of less than one (1) millisecond in duration and represents less than 128 bits." (Id. at 9.) The limitation remained in the claims of the application that became the '920 Patent. Thus, says WiAV, the only relevant aspect of the GSM standard that the applicant

sought to disclose during the prosecution was the length of the time slot. While the applicant did specifically limit the time slot, there is no evidence that the length of the time slot was the only relevant part of the GSM standard to which the disputed text referred.

The Defendants assert that, during prosecution, the applicant expressly disclaimed non-TDMA technologies, and thus, it is essential to the construction of the term that it include limitation to TDMA. "[W]here the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender." Omega Eng'g Inc. v. Raytek Corp., 334 F.3d 1314, 1324 (Fed. Cir. 2003). This doctrine protects the public's reliance on the applicant's statement and "precludes patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." Id. at 1323-24.

Here, the applicant attempted to distinguish prior art for which a claim was rejected by stating that "Kunkel provides a solution to the channel-scanning problem for non-TDMA technologies such as CDMA and FDMA and thus teaches away from the use of its technology when dealing with TDMA networks." (Def. Ex. F at WIAV0005902.) At the

Markman hearing, it was clarified that the GSM standard utilizes both FDMA and TDMA, and that FDMA is considered to be the starting point for the GSM system but that the hallmark of a GSM system is the use of TDMA in addition to FDMA.

4. Proper Construction of "Wireless communication system/network operating in accordance with the GSM standard"

Overall, there is some support for both of the parties' constructions, but the Defendants' construction is more consistent with the intrinsic record. Certainly, the specification makes clear that the GSM system uses a 200 kHz radio channel and that it utilizes TDMA. And, the prosecution history shows that the applicant attempted to distinguish prior art based on the invention's use of TDMA. Thus, use of these aspects of the GSM standard in defining the term is appropriate.

Additionally, the Plaintiff's construction has very little meaning, especially when stripped of its redundant limitation of the time slot to less than 1 millisecond and representing fewer than 128 bits. Indeed, without this redundant limitation, the Plaintiff's construction says very little about the GSM standard under which the wireless system must operate.

The construction proposed by the Defendants is further supported by the fact that the term "in accordance with" is used throughout the patent consistently with its ordinary and plain meaning. The Merriam-Webster online dictionary defines "accordance" as "agreement" or "conformity." Merriam-Webster Online Dictionary, <http://www.merriam-webster.com/dictionary/accordance> (last visited March 15, 2010). No definition equates "in accordance with" and "consistent with," the meaning urged by WiAV. Thus, given the ordinary meanings of the words of the claim, one of ordinary skill in the art would understand that the wireless system or network would operate in conformity or agreement with the GSM standard.

Therefore, the term will be construed as: system/network that transmits data between a mobile station and a base station over a 200 kHz radio channel using time-division multiple access (TDMA) in accordance with the Global System for Mobile communications specifications existing as of October 29, 1997.

## CONCLUSION

For the reasons set forth above, the disputed claim terms in the Patents-in-Suit are to be construed as reflected herein.

/s/ *REr*

\_\_\_\_\_  
Senior United States District Judge

Richmond, Virginia  
Date: March 29, 2010